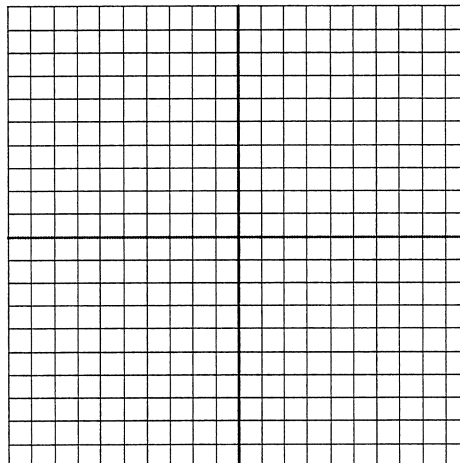


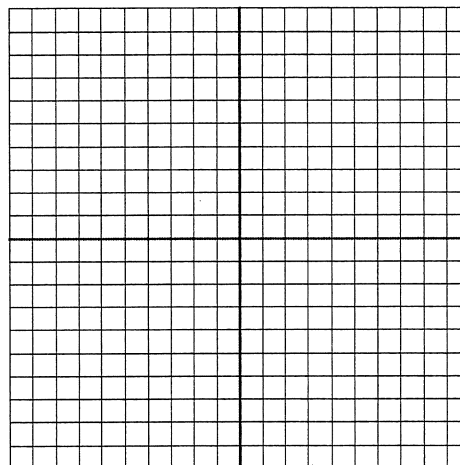
8.2 and 8.3 Graphing Rational Functions

For each rational equation, find the domain and range, vertical asymptote(s), horizontal asymptote, a table of values, and graph the function.

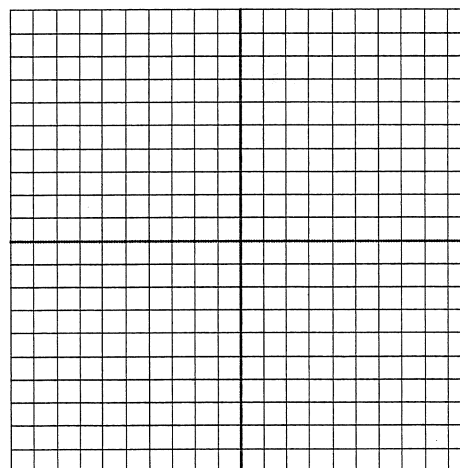
1.  $y = \frac{2x-1}{x^2-1}$



2.  $y = \frac{x^2-3}{3x-6}$



3.  $y = \frac{x-3}{x+3}$



## 8.4 Multiplying and Dividing Rational Expressions

Multiply or divide each rational expression to simplify.

4.  $\frac{2x+10}{x^2+10x+25}$

5.  $\frac{x^2-2x-24}{x^2+7x+12} \cdot \frac{x^2-1}{x-6}$

6.  $\frac{4x^2-2x}{x^2+5x+4} \div \frac{2x}{x^2+2x+1}$

### 8.5 Adding and Subtracting Rational Expressions

Add or subtract each rational expression to simplify. Remember to find a common denominator!

$$7. \frac{1}{x^2+5x+4} + \frac{5x}{3x+3}$$

$$8. \frac{5x}{x^2-x-6} + \frac{4}{x^2+4x+4}$$

$$9. \frac{5y}{y^2-7y} - \frac{4}{2y-14}$$

$$10. \frac{x+2}{x-1} - \frac{x-3}{2x-2}$$

## 8.6 Solving Rational Equations

Solve each of the rational equations. Don't forget to check your solutions!

$$11. \frac{2}{3x-5} = \frac{4}{x-15}$$

$$12. \frac{1}{x-5} = \frac{x}{x^2-25}$$

$$13. \frac{2}{x-1} = \frac{x+4}{3}$$

$$14. \frac{10}{2y+8} - \frac{7y+8}{y^2-16} = \frac{-8}{2y-8}$$

$$15. \frac{2}{x+3} - \frac{1}{x} = \frac{-6}{x^2+3x}$$